



# Town of Amherst

## Department of Public Works

### 2007 Water Quality Report

#### Dear Customer:

*In the year 2007, drinking water supplied by the Town of Amherst (PWS ID#1008000) met all U.S. Environmental Protection Agency (EPA) and state drinking water health standards.* This annual report will detail where town water comes from, what it contains, and the risks water testing and treatment are designed to prevent. This is the tenth year this report has been disseminated. Although much of the information in this report is required, we will supplement those elements with information of interest to the public.

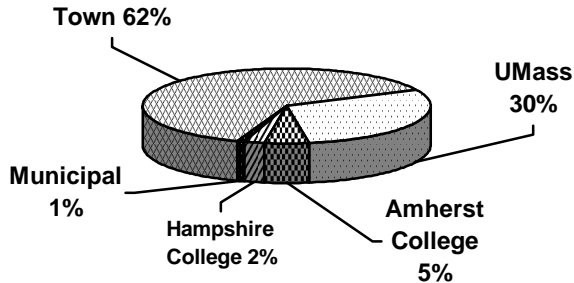
#### 1. Water Sources

The Town currently has seven sources that contribute to meeting the water demand: Atkins Reservoir, the Pelham Reservoir System, the South Amherst Wells (#1 & #2), The Brown Well (#3), the Lawrence Swamp Well (#4) and the Bay Road Well (#5). Both surface water supplies, Atkins and Pelham, and Wells 1, 2 & 3 are used year round to satisfy the required demands. These five sources supply approximately 90% of the total water produced. Wells #4 and #5 operate during high demand periods and summer months when the reservoirs are low. In 2002, a Source Water Assessment Program (SWAP) was completed on the Amherst water system by the Massachusetts Department of Environmental Protection (MADEP). This SWAP report assesses the susceptibility of the Town's drinking water sources to contaminants and outlines recommendations for drinking water protection. A copy is available at the Department of Public Works and online at [www.mass.gov/dep/](http://www.mass.gov/dep/)

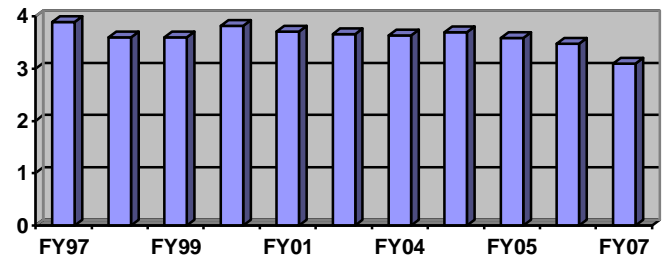
#### 2. Water Consumption Data

The average daily water consumption for the year 2007 was 3.248 million gallons, with a peak demand of 4.364 million gallons on September 4, 2007. Water consumption has dropped measurably in the past few years due to successful water conservation efforts at the University.

**Water Consumption FY07**



**Daily Water Consumption in Million Gallons**



#### 3. Substances Found in Tap Water

In order to ensure that tap water is safe to drink, the MADEP and EPA prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) and the Massachusetts Department of Public Health (DPH) regulations establish limits for contaminants in bottled water that must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA Safe Drinking Water Hotline at 800-426-4791, or online at [www.epa.gov](http://www.epa.gov). Sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

**Microbial Contaminants**- such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

**Inorganic Contaminants**- such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining and farming.

**Pesticides and Herbicides**- may come from many sources such as agriculture, urban storm water runoff, and residential uses.

**Organic Chemical Contaminants**- including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.

**Radioactive Contaminants**- which can be naturally occurring or be the result of oil and gas production and mining activities.

4. Vulnerability

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and some infants can be particularly at risk for infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

5. Lead & Copper

Elevated levels of lead and copper in drinking water usually indicate water that has corrosive qualities and may attack the household plumbing. Most homes use copper piping, and the solder used to hold the fixtures together might contain lead (lead in solder was discontinued in 1989). All water supplies in Amherst are treated for corrosion control by the addition of sodium hydroxide to reduce corrosion. In the last required sampling done in 2005, water samples from thirty-nine homes were analyzed, and the results are summarized in the table below. Only 1 sample was found to have lead levels over the action level (AL).

Substance	MCLG	Highest Level	90% Value*	Action Level
Lead	0 ppb	290 ppb	2.9 ppb	15 ppb
Copper	1.3 ppm	0.29 ppm	.097 ppm	1.3 ppm

\*The 90% Value is the value below which 90% of the data falls. If the 90% value is below the AL, no further action is necessary

6. Treatment Plant Efficiency

All water from surface water supplies is treated by coagulation of the insoluble contaminants and then filtered through a fine sand-like material. The effectiveness of this process is measured by the cloudiness of the water (turbidity) leaving the treatment plant. Turbidity occurs naturally as a result of soil erosion due to turbulence in the tributaries that supply the reservoir. The following turbidity data illustrates the daily average performance of the two water treatment plants that serve Amherst. Drinking water regulations require the turbidity to be less than 0.3 in 95% of the samples.

Samples are taken every 4 hours	Raw Water Turbidity		Treated Water Turbidity	
	Annual Average	Maximum Reading	Annual Average	Maximum Reading
Centennial	0.26	0.38	0.09	0.15
Atkins	0.53	0.76	0.10	0.16

Note: All units measured in NTU= Nephelometric Turbidity Units

7. Water Quality

The following table lists all of the drinking water contaminants that we detected during the calendar year of this report. The presence of contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done in the calendar year of the report. Sometimes the EPA or MADEP requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not change frequently. All water sources are analyzed for the following chemical substances: inorganics (metals and salts), nitrate, nitrite, lead, copper, disinfection byproducts, volatile organic substances (petroleum and solvents) and synthetic organic compounds (herbicides and pesticides). All of these substances that were detected were below the federal limits. The table below indicates contaminants that were detected in your drinking water. None of these substances were above the levels designated by the Safe Drinking Water Act as being a health risk. The following definitions will help explain the water quality table:

Important Drinking Water Definitions:

**Maximum Contaminant Level (MCL):** The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

**Maximum Contaminant Level Goal (MCLG):** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

**Treatment Technique (TT):** A required process intended to reduce the level of a contaminant in drinking water.

**Action Level (AL):** The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements that a water system must follow.

**Maximum Residual Disinfectant Level (MRDL):** The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants (e.g. chlorine, chloramines, chlorine dioxide).

**Maximum Residual Disinfectant Level Goal (MRDLG):** The level of a drinking water disinfectant below which there is no known expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

<b>I. Regulated Substances</b>	<b>Date Tested</b>	<b>Unit</b>	<b>MCL</b>	<b>MCLG</b>	<b>Highest Detected Level</b>	<b>Range of Data</b>	<b>Major Sources</b>	<b>Violation</b>
<b>a) Inorganic Substances</b>								
Fluoride	9/2/2007	ppm	4	N/A	1.3	0.20 - 1.3	Added to prevent tooth decay	NO
Barium	6/08/2007	ppm	2	2	.0098	.0098	Erosion of natural deposits	NO
Nitrate (measured as nitrogen)	4/19/2007	ppm	10	10	2.3	<0.05 – 2.3	Runoff from fertilizer ; Leaching from septic tanks, Sewage; Erosion of natural deposits	NO
<b>b) Disinfection Contaminants</b>								
Total Trihalomethanes	8 Sites Quarterly	ppb	* 80		56.6	11.93 – 56.6	Byproduct from chlorination	NO
Haloacetic Acids	8 Sites Quarterly	ppb	* 60		55.6	11.90 – 55.6	Byproduct from chlorination	NO
Combined Chlorine	Twice Monthly	ppm	4.0	0	3.5	0.0 – 3.5	Applied Disinfectant	NO
<b>c) Radioactive Contaminants</b>								
Gross Alpha (pCi/l)	9/24/2003	pCi/l	15	0	0.66	0.26 – 0.66	Erosion from natural deposits	NO
Radium 226 & 228 (pCi/l)	9/24/2003	pCi/l	5	0	0.75	0.21 – 0.75	Decay of natural and manmade deposits	NO
<b>II. Unregulated Substances</b>	<b>Date Tested</b>	<b>Unit</b>	<b>MCL</b>	<b>MCLG</b>	<b>Highest Detected Level</b>	<b>Range of Data</b>	<b>Major Sources</b>	<b>Violation</b>
Sodium	6/07/2007	ppm	None	None	9.4	9.4	Road salt; Chlorine; Lye	NO
Sulfate	4/10/2007	ppm	None	None	30	5.1 – 30	Natural deposits; Landfills; Dumps;	NO

\* Based on an annual running average

## **DID YOU KNOW?**

### NO REGULATIONS

**BOTTLED WATER**  
**\$1.00 / 12 OZ**

It's estimated that 80% of bottled water comes out of a tap.

### MANDATED REGULATIONS

**AMHERST WATER**  
**\$.0004 / 12 OZ.**

Learn more about your drinking water at:

[www.epa.gov](http://www.epa.gov)

[www.mass.gov](http://www.mass.gov)



For more information, call Robert Pariseau,  
Director of Water Resources, Amherst DPW at (413) 259-3115  
Email: [pariseau@amherstma.gov](mailto:pariseau@amherstma.gov)  
This report is also available on the web at [www.amherstma.gov](http://www.amherstma.gov)



**WANT TO TEST YOUR WATER KNOWLEDGE?  
CHECK OUT THE FOLLOWING WEBSITE AND PLAY THE WATER SENSE  
GAME.**

<http://www.epa.gov/watersense/quiz/game.html>

**WATER LEAK TEST** - Most water meters have a red triangle ▲ on the face. If this triangle moves, even slightly when you are not using any water, you may have a leak. See “Understanding Your Water Meter” on our website at [www.amherstma.gov](http://www.amherstma.gov)

### **FIGHT THE GREASE MONSTER?**

80% of sewer line blockages are caused by FOG (fats, oil and grease) poured down the drain. Grease from cooking can be stored in a can in the refrigerator and thrown in the trash when full. Throw food waste in the trash or compost, not down the drain.



**PRESCRIPTION DRUG DISPOSAL:** **DO NOT DISPOSE OF PRESCRIPTION DRUGS BY FLUSHING THEM DOWN THE TOILET.** The Wastewater Treatment plant does not remove all the chemicals in prescription drugs, and they can contaminate our rivers and streams and some water supplies. Prescription drugs should be placed in a heavy plastic container, such as a laundry detergent bottle, with a little water, sealed tightly and placed in your garbage.

Town of Amherst  
Department of Public Works  
586 South Pleasant Street  
Amherst, MA 01002-2542

这份报告中有些重要的信息，讲到关于您所在社区的水的品质。请您找人翻译一下，或者请能看得懂这份报告的朋友给您解释一下。

El informe contiene información importante sobre la calidad del agua en su comunidad. Tradúzcalo o hable con alguien que lo entienda bien.

នេះជាសេចក្តីរាយការណ៍សំខាន់អំពីទឹក  
ទទួលបាននៅទីក្រុងរបស់លោកអ្នក  
បើមិនយល់សូមមេត្តារកអ្នកបកប្រែ  
អ្នកដែលយល់អំពីសេចក្តីរាយការណ៍  
ពន្យល់ដល់លោកអ្នក។

**Town of Amherst 2007  
Drinking Water Quality Report**